

THURSDAY, FEBRUARY 28, 1918.

THE NEW ERA IN MEDICINE.

Lord Lister. By Sir Rickman J. Godlee, Bart.
Pp. xix+676. (London: Macmillan and Co.,
Ltd., 1917.) Price 18s. net.

THIS is a worthy biography of a very great man. Sir Rickman Godlee had to decide whether to write a literary biography in which the personality of Lister should be the central motive—a biography for the general reader—or, without neglecting this portrait, to build it, as wisely he has done, around his surgical and scientific occupations. The volume is, nevertheless, one to appeal not to medical readers only, but also to all men of science; and indeed to all those beyond who find an interest in the methods of discovery. The work is bulky, and some parts of it—for example the period of the failing light—might have been abridged; still on the whole this comprehensive book well reflects the life of toil and devotion which ransomed mankind from some of the most frequent and terrible of its pains and sorrows. Could the irony of things cut deeper than in that meeting of Lister in Pisa with a procession of the Archbishop in full dress, attended by ecclesiastics of various grades, chanting a prayer to Ranieri, the patron saint of the city, for his intercession against the cholera and the disease of the vines (p. 54). Now, as in all critical periods of medicine, surgery has led the way.

In the old maxim, to choose your parents wisely, Lister was not wanting. His father was a man of science of considerable and abiding distinction; and was moreover no inconsiderable scholar. The portrait of his mother speaks of a woman likewise of rare intelligence and refinement. And over the home rested the pure and gentle spirit of the Society of Friends.

Early in his life Lister was impelled to biological studies, and soon made his choice of the profession of medicine; but father and son were of one mind that, although scientific pursuits were by no means to be laid aside, yet a good literary and mathematical education should be pursued also, to the end of school life. Thus it was that Lister was well equipped as a scholar, and all through life he cherished not only that admiration which we all assume as we glance at our masterpieces sleeping in their presses, but also made them—Horace, Virgil, and Dante especially—the companions of his scanty leisure and holidays.

It has been said that Lister was but a plodder, a man rather of indefatigable industry than of imaginative genius. The truth is, imagination is of two chief kinds: the concrete, as in Reynolds, Turner, Keats, Rodin; the abstract, as in Newton, Maxwell, Pasteur, Darwin. In discoverers of this company, of which was Lister, the act of imagination consists, not in the building of æsthetic memories into an image, but in the conception and synthesis of principles, principles akin, but which, to ordinary vision, had been unseen

or their kinship unrecognised. When on this perception of underlying affinity a new synthesis is revealed, it often comes in a flash, because the combining principles meet in the mind of a genius already vigilant and charged with prepared materials. Thus Pasteur's spark fell into a prophetic and impassioned mind already charged by vast and fertile labours, and by thought, experience, and foresight. The powder was ready and dry. The same essay by Pasteur that was shown to Lister by Prof. Thomas Anderson in 1865 had in the year before been shown to Spencer Wells, but the flash did not happen.

The "taking pains" part of genius, cherished, let us not forget, by his devoted wife, was in Lister almost stupendous. The present writer, who had the privilege of Lister's friendship, until he read this book had but an imperfect notion of its magnitude and variety; and behind it burned the sleepless passion of human love. He recalls one vivid conversation in which Lister described his restlessness, while house-surgeon to Syme, under this consuming passion. Driven by it, he would repair of an evening to the wards to re-investigate the wounds, and again and again to scrape away fragments of tissues and discharges for examination by chemical and histological methods. Without this profound knowledge and experience of tissue perversions, controlled also by innumerable experiments, as upon the frog's web and bat's wing—methods devised by himself—he would have been as unprepared as were his surgical contemporaries to descry the power and the compass of Pasteur's discovery. We should add that in these preliminary researches he never ceased to proclaim his debt to Wharton Jones, and especially to Sharpey. And not only was Lister thus prepared beforehand, but his later bacteriological work also was far greater and richer than is generally appreciated. He invented the "hot box," and his were the methods of culture which held the field until they were superseded by Koch's solid media.

When the writer joined the honorary staff of the old Leeds Infirmary at least one-third of the amputations of the thigh were mortal. In the magnificent new building things were at first but little better; the ovariectomies—then a new and tentative operation, it is true—were so mortal that murmurs arose not only outside the hospital, but also within it. Yet in most instances these and such patients had been placed in single rooms apart, rooms as clean as housemaids could make them. What nevertheless that death-rate was I dare not try to remember. Suffice it to say that Erichsen was proud of results in which 25 per cent. of his major operations were mortal; of a certain 163 amputations Billroth lost nearly one-half—viz. seventy-five cases. In the hospitals of Paris generally the death-rate of major operations amounted to more than 50 per cent. In the London hospitals (1800 beds) the death-roll of all operations was no less than 38 per cent.!

We were all so proud of our housemaidings that when Rolleston, in his address on physiology at

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Oxford, told us that much of the cystitis was due to our use of dirty catheters, and when Simpson proclaimed that our wards were so foul as to be fit only for a bonfire, we were incredulous and full of wrath. But in this book is told that story of the great magician under whose wand Syme performed his last twenty thigh amputations without a death! Erysipelas, septicæmia, gangrene, tetanus fled as gibbering ghosts before him.

But for a while these marvellous results were achieved only by the master and his reverent disciples; they were not bestowed upon the profane, or upon "slipshod surgeons." However, our limits forbid any discussion of the antiseptic and aseptic controversies, much of it a matter of words, or of the enthusiastic welcome of "Listerism" almost everywhere at home and abroad, except in London. For these and such stories we must be content to send the reader to Sir Rickman Godlee's book, in which every stage of the establishment of the gradually perfected system is described in its order, and the cardinal points developed in due proportion by an author who is almost silent upon the part played by himself in the new surgery. Moreover, in this case, that the life should have been written by a near kinsman proves to be altogether to our advantage.

C. A.

MUSEUM MANAGEMENT.

The Museum: A Manual of the Housing and Care of Art Collections. By Margaret Talbot Jackson. Pp. xi+280. (London: Longmans, Green, and Co., 1917.) Price 6s. 6d. net.

IN the absence of any comprehensive handbook of museum management, this book serves a useful purpose. It is by no means exhaustive, and is written (quite naturally) from the point of view of American museums; but it contains many hints which the directors of English museums will find helpful. The author does not appear to have paid much attention to English museums; only ten are mentioned in her list of places visited (the Fitzwilliam and all provincial museums except Liverpool are omitted), as compared with forty-one German and seventy-nine Italian; and, apart from references to the print-mounts of the British Museum and a lighting device at the Ashmolean, practically no use is made of their experience. This, however, is no disadvantage from the point of view of museum officials in this country, but rather the contrary. We know our own practice, and what is helpful is to hear the experience of others, even though it may need adaptation before it is applied here.

Miss Jackson deals almost wholly with what may be called the body of a museum, not its soul. Only seven pages are devoted to the chapter on the formation of collections; but she has much to say, and says it sensibly, on the situation and architectural plan of a museum, on its walls, floors, and decorations, on the treatment and conservation of various fabrics and materials, and on questions of internal organisation and administration. On

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some points within this compass more might usefully be said; for example, on the relative advantages of small and large rooms. Small rooms are restful for the careful student who wishes to examine a few things and to examine them minutely; but they are wearisome to the general visitor, and are less easily warded. The true solution appears to be to have fair-sized galleries for the ordinary visitor, in which carefully selected objects are set out in the most instructive manner; and small rooms for the study series, and for a few special treasures, such as a Madonna di San Sisto or a Venus de Milo, which deserve the honour of solitary worship. There are few museums which are planned in this way, or which can spare the necessary space to set out objects with sufficiently wide intervals; but the ideal should be before the designers of new buildings.

A few other points may be noted. A word of caution is needed against the cross-lights and reflections which come from low windows on either side of a gallery and glass cases at right-angles to them. If peripatetic lectures are given in the galleries, some floor covering (such as cork linoleum) will save the lecturer's voice and the listeners' tempers. Variations of level between galleries, necessitating a step or two up or down, are a great obstacle to the transport of objects on trollies or barrows. More might have been said about designs of show-cases; the contents should not looked naked and unframed, but the case should provide a frame for the contents, without overpowering them by too much heaviness. If the museum is to be used at night, much thought is needed for the lighting, whether by ceiling lights or lights within the cases. But the omission which seems most serious is a fuller discussion of the labels and guide-books on which the main value of the museum as an educational agency depends. In America perhaps more reliance is placed upon lectures. In this country the lecturer is making progress as a museum institution, but he by no means replaces the descriptive label or the cheap, well-illustrated guide-book.

These are the few suggestions which space allows towards the improvement of a book for which museum curators should be grateful.

F. G. KENYON.

PLANT-ANATOMY IN RELATION TO EVOLUTION.

The Anatomy of Woody Plants. By E. C. Jeffrey. Pp. x+478. (Chicago, Ill.; The University of Chicago Press; London: Cambridge University Press, 1917.) Price 4 dollars net.

BOTANISTS for several years past have felt the need of a comprehensive text-book on the anatomy of plants worthy to take the place of de Bary's classic book published in 1877. As Prof. Jeffrey says: "In de Bary's text-book both palæobotany and development are deliberately eschewed." The omission of any account of the anatomy of extinct plants would in these days